

TO THE EDITOR.

SIR,—If you should think these few exercises worthy a place in your Journal, they are at your service; though they be easy, they have the merit of originality. I am, Sir,
Belfast, July 16. ARCHITECTUS.

Two given circles intersect one another. It is required to describe two equal circles touching one another, and having their circumferences bisected by each of the given circles.

A hollow cylinder whose external diameter is equal to its height is 2261.952 inches in solid content, the thickness is 2 inches; required the length and internal diameter.

To shew a regular method of laying off the panels or coffers in the interior of a dome, whether spheroidal or ellipsoidal.

Divide a straight line into two parts, that their rectangle may be equal to the square of their difference.

TO THE EDITOR.

SIR,—I was conversing a few days since with a brother on the desirableness of a society for the protection and benefit of clerks in architects' offices, when very opportunely the announcement of the "British Association of Architectural Draughtsmen" appeared. There is a minor, though not the smallest, benefit arising from such societies, the improvement of the miserable remuneration which the greater part of our class are obliged to submit to. Surely it is not right that the professional man who has established a good connection, should get one or two thousand per cent. profit on the labour of his assistants, which is generally, or at least very often, the case.

May I request information as to whether the number of members in the before-named Association is complete? or how the admission of new members is regulated?

Wishing good health and long life to your (and our) magazine, I remain, Sir, yours very truly,
AN ARCHITECTURAL DRAUGHTSMAN.

18th July, 1843.

TO THE EDITOR.

SIR,—Though it is desirable that parties with small incomes should have decent houses, with as few windows as possible, yet still the majority of builders generally follow the old plan of placing two attenuated windows in rooms, the size of which could be better lighted and as well ventilated by one of fair and legal proportions. What purpose it is to serve I know not, except that it avoids the outlay which the architect would receive for new designs and for the exercise of improved taste and ingenuity. The French laugh at us for our monotony and for our want of invention, and truly we are open to their ridicule, as we follow the beaten track without regarding the varying circumstances of the times.

Yours, very truly,

ENCAUSTIC.

Miscellaneous.

THE POWER OF OIL TO ALLAY THE VIOLENCE OF WAVES.—The existence of this property in oil has been so often asserted, that a commission was lately appointed by the Royal Institute of the Pays Bas to make experiments on the subject.—"The commission assembled at Zandvoort, on the shore of the North Sea. Some of them proceeded a short distance from the shore, in order to pour the oil upon the water, and observe the results; the others remaining on land, and not knowing either at what moment or how many times the oil was poured out, were to keep their eyes fixed on the waves, which rolled from the boat towards the shore; by these means their opinion, exempt from all influence, might be considered as so much the more impartial. The wind was south-west, and of moderate force; the quantity of oil poured out at four different times, namely, at 43, 45, 50, and 54 minutes past nine o'clock, amounted to 15 litres (upwards of 3 imperial gallons); the tide was flowing, and would not reach its full height till 21 minutes past eleven o'clock. The commissioners who remained on the shore not having remarked any effect which could be ascribed to the effusion of the oil, and the same thing being the case with those engaged in pouring it, we might already consider the question, if oil poured at a little distance from our piers could protect them from the fury of the waves, as answered in the negative. Nevertheless, the commissioners thought it incumbent upon them to make a second trial at a somewhat greater distance from the shore. Two of them were rowed beyond the rocks, and then cast anchor. The distance was calculated by the boatmen at 300 yards; the sounding line indicated a depth of about three yards; and the waves were rolling considerably. More than the half of 15 litres of oil was poured out, in the space of five minutes (from 15 to 10 minutes before twelve o'clock), and the commissioners did not observe the slightest effect in rela-

tion to the object of their mission. They saw the oil swimming on the surface of the water, partly united in spots of an irregular form, partly extended and forming a pellicle, and partly mingling with the foam of the waves, and sharing in their oscillatory movements. When returning to the shore, at the moment of passing the rocks, the commissioners caused the rest of the oil to be poured on the water, and they can testify that it had no effect in diminishing the motion of the waves, for they were many times abundantly sprinkled with the spray. It is unnecessary to add, that those who remained on land had remarked nothing at all which could be attributed to the effusion of the oil. After all that has been said and written on this subject, the commissioners are astonished at the negative result of their experiments, and, limiting themselves to the account of them, they add no observations. They believe themselves, however, authorized to assert as their personal opinion, that the idea of protecting our piers by means of oil is not a happy one."—*Athenaeum*.

MACHINE FOR RAISING AND LOWERING MINERS.—The Royal Cornwall Polytechnic Society have awarded to the adventurers of the Treasacan mine a premium of 500*l.* offered by the society for the most efficient machine for raising and lowering miners. The following account is given in the *Mining Journal* of an experiment lately made with it. J. D. Gilbert, Esq., and several other gentlemen descended into the mine to the depth of 280 fathoms by the machine, which is the full depth to which it is carried. They then proceeded to the bottom of the mine, which was reached by 20 fathoms of ladders, and 11 fathoms of rope, making the extraordinary depth of 1866 feet from the surface. Thus an opportunity was afforded of testing the advantages of the "man engine" over the usual means of ascent and descent. It appears that in time and wages a saving to the adventurers of a very considerable sum will be effected; thus this machine, which was first adopted through pure motives of humanity, appears likely to prove a source of pecuniary profit to the adventurers. It may be satisfactory to state, that the machine for raising and lowering men to this depth (280 fathoms) effects it in about twenty minutes, whereas by the ladders, upwards of an hour was consumed, and the men greatly exhausted, and now, without the slightest fatigue, they are landed near their work, or brought to the surface.

ARTESIAN WELLS.—The greatest of these interesting works yet existing in Aberdeen has just been successfully completed, at the tape-works of Messrs. Milne, Low, and Co., at Woolmanhill. The bore is 8 inches in diameter, and 250 feet 9 inches deep. It required nearly 11 months' working to complete the excavation. The temperature of the water at the bottom of the well, when completed, was found to be within a fraction of 50° Fahrenheit; and the average temperature of the locality, deduced from twenty-three years' observation, by the late George Innes, F.R.S., is 47° 1'; hence, nearly 3° of increase appear as the effects of central heat. The supply of water obtained is excellent in quality, and sufficient in quantity for all the purposes of the works.—*Aberdeen Herald*.

WINDSOR CASTLE.—A royal residence nobler and grander than this Castle there cannot be in all the universe. The peculiar architecture, the massive walls, the mighty towers, spacious doorways, and majestic avenues, the grandeur of its compass, the extent of its courts, even the blueish grey hue of the building, and finally, the elevated site of the palace, cannot fail to impress the spectator with a feeling not only pleasurable, but imposing.—*From the Travelling Diary of a German Naturalist*.

NEW STEAM SHIP BENTINCK.—This splendid vessel is now moored off Blackwall, she is of 2,000 tons burden, 520 horse power, has accommodation for 110 passengers in 20 single, 22 double, and 12 family cabins. Light and ventilation has been particularly attended to in the cabins, the lowest ones being fitted up with Lang's patent posts, and the sides and doors throughout being principally Venetian; there are hot, cold, and shower baths, and a bath-room on deck, on a most luxuriant scale.

RODDA'S PATENT METHOD OF CONSUMING SMOKE.—Among the numerous patents lately obtained for consuming smoke, there are none that can vie in simplicity with that of M. Rodda. The method adopted is, to partition off a portion of the back of a furnace with fire bricks, so that when the coal has been coked in the fore part, it is thrust into the binder division, and the smoke from the freshly supplied coal being compelled to pass over the incandescent coked fuel, is consumed. The principal merit is the simplicity, consisting merely of a few fire bricks which may be placed in any furnace without expensive alteration.

The iron and coal trade in Scotland never was so bad as at present; the prices are ruinously low, and half the furnaces in Lanarkshire will very soon be thrown out of blast.

STATE OF THE IRON TRADE.—The crash in the iron districts has at length begun; the banks are going, and with them the remaining accommodation which served to sustain the almost desperate energies of the masters. Works are being stopped, furnaces blown out, and every one knows the consequence; thousands of workmen are unemployed, and starvation threatening them and their families. A general decrease in the demand for iron goods, betokens also the general distress. God knows what is to be the end of it.

CAST-IRON BUILDINGS IN CHINA.—The Missionary Gutzlaff writes, that he has discovered a pagoda, near the town of Tsing Kiang Fou, in the province of Kiang Wam, which is entirely composed of cast iron. It is covered with bas-reliefs and inscriptions, which shew that they are as old as the dynasty of Tang, which was upon the throne as far back as from the fifth to the tenth century of the Christian era. It is in the shape of an octagonal pyramid, forty feet high, and eight feet diameter at the base; it has seven stories; the Missionary represents it as being strikingly elegant and surpassing any thing of the kind he had ever seen in China. What are we to say to this?

THE BRITISH IRON COMPANY is to be formed anew, with a capital of £400,000, one-half of which is to pay off the old shareholders. 6,380 shares are said to be subscribed for already, notwithstanding the depressed condition of the iron trade. The shares are £20 each.

A new method of preserving iron-work from rust has been communicated by M. Paymen to the French Institute. It consists in plunging the pieces of metal to be preserved in a mixture of one part concentrated solution of impure soda (soda of commerce) and three parts water. Pieces of iron left three months in this liquid, lost neither weight nor polish, whilst similar pieces immersed for five days in simple water were covered with rust.

HEALTH OF TOWNS COMMISSION.—Dr. Lyon Playfair, who has been appointed a commissioner for inquiring into the present state of the health of large towns and populous districts in England and Wales, is expected in Manchester to conduct his inquiries.

TO CLEAN MARBLE, SIENNA, JASPER, PORPHYRY, AND SCAGGIOLA.—Mix up a quantity of the strongest soap lees with quick lime to the consistency of milk, and lay it on the stone, &c. for 24 hours, clean it afterwards with soap and water, and it will appear like new.

THE TEMPLE CHURCH is again closed for two months, for further beautifications. The marble pillars are to be polished in a superior manner, and the entire wood-work is to be stained dark and polished. The pulpit will also be finished, as well as the new seats for the chorists. There is also a building in progress attached to the church, for the choir.

WELLS' CATHEDRAL.—The Dean and Chapter of Wells have just concluded arrangements for the immediate and thorough repair of this beautiful edifice at an expense of about 70,000*l.*

THE SMOKE NUISANCE.—The Committee of the House of Commons, on the health of towns, of which Mr. Mackinnon is chairman, has been much occupied with this subject.

A SAWYERS' ANNIVERSARY was held in Lancaster last week, when a large party of sawyers and their wives dined and enjoyed themselves in excellent style. The "Lancashire witches" of the fraternity came in for their deserved honours, the healths of the wives of the sawyers being drank with great enthusiasm.

SWEEPING ORTHOGRAPHY.—At a chimney-sweeper's shed, in the neighbourhood of Westminster, is a board stuck up with the following inscription chalked upon it. "W—C—Sweep—keeps all sortes of smokey flues and chimbleys at any houses. N. B. Fires put out by patent machine."

INCOMBUSTIBLE THATCH.—It has been proved by repeated experiments that straw, saturated with a solution of lime, or common whitewash, is incombustible.

It is said that Benjamin Gaskell, Esq., of Thorne's House, is about to lay out nearly 100 acres of land, near the village of Thorure (Yorkshire), not far from the Church, as a public cemetery.

A chimney is in course of erection at Woolwich Dockyard as a vent for the whole of the smoke from the different flues in the yard. It is to be 30 feet higher than the Monument.

New churches at Llanlleched and Llanddanielion are being now erected.

An improvement in our ship-building has been patented by Mr. Fairbairn, which consists in preparing the plates with a turned-up edge or flange, and so joining them together by rivets through the two flanges, as to leave the work smooth and flush outside, for greater strength a T bar is welded and rivetted with the joining.